# **EAST Search History**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	(2)	("5726133" "6191081").pn.	US-PGPUB; USPAT; USOCR	OR	ON	2006/01/13 18:41
S2	2	("6140282" "5569405").pn.	US-PGPUB; USPAT; USOCR	OR	ON	2006/01/13 18:41
S4	13	(lubricant lubrication lubricating oil) and (zinc "Zn") adj di\$14dithiocarbamate\$1 and (\$16thiocarbamoyl\$21 (sulfur NEAR3 \$16thiocarbamate\$1) antioxidant anti adj oxidant)	EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/06/29 10:38
S5	1098	(508/363,364,365,371-378,443,444). ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2006/06/29 11:01
S6	66	(508/110-444).ccls. and (zinc "Zn") adj di\$14dithiocarbamate\$1 and (antioxidant anti adj oxidant) SAME (\$16thiocarbamoyl\$21 (sulfur NEAR3 \$16thiocarbamate\$1) phenol catechol resorcinol hydroquinone naphthol biphenol bi adj phenol phenolic) and (zinc "Zn") adj di\$14dithiophosphate\$1	US-PGPUB; USPAT; USOCR	OR	ON	2006/06/29 11:10

# THEXTON 10/666,350

Page 1

=> file reg FILE 'REGISTRY' USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2006 American Chemical Society (ACS)

=> display history full l1-

# FILE 'HCA'

- L1 340433 SEA (LUBRIC? OR LUBE# OR GREAS? OR ANTIFRIC? OR ANTIWEAR?
  OR ANTICORRO? OR ANTIRUST? OR ANTIOXID? OR ANTI (W) (FRIC?
  OR WEAR? OR CORRO? OR RUST? OR OXID?) OR SLICK? OR
  SLIPP? OR OLEAGINOUS?)
- L2 25145 SEA ((GEAR? OR ENGINE# OR CRANKCASE? OR MOTOR# OR TRANSMISSION? OR HYDRAUL? OR MACHINE? OR (2 OR 4 OR TWO OR FOUR) (W) (CYCLE# OR STROKE#)) (2A) (FLUID# OR OIL#))
- L3 426575 SEA (SURFACT? OR BIOSURFACT? OR HYDROTROP? OR DETERG? OR ABSTERG? OR (SURFACE(W)ACTIVE# OR WETTING#)(A) (AGENT? OR ADDITIVE? OR COMPOUND? OR COMPD# OR CMPD# OR CPD#) OR EMULSIFIER? OR DISPERSANT? OR SOAP?)
- L4 14544 SEA ?PHENOL? (3A) (ANTI (A) OXID? OR ANTIOXID?)

#### FILE 'REGISTRY'

E ZINC DIMETHYL DITHIOPHOSPHATE/CN
L5 1 SEA "ZINC DIMETHYL DITHIOPHOSPHATE"/CN

E ZINC DIETHYL DITHIOPHOSPHATE/CN

L6 1 SEA "ZINC DIETHYL DITHIOPHOSPHATE"/CN
E ZINC DIPROPYL DITHIOPHOSPHATE/CN

L7 1 SEA "ZINC DIPROPYL PHOSPHORODITHIOATE"/CN
E ZINC DIBUTYL DITHIOPHOSPHATE/CN

1 SEA "ZINC DIBUTYL DITHIOPHOSPHATE"/CN

L9 4 SEA (L5 OR L6 OR L7 OR L8)

# FILE 'HCA'

L8

1942 SEA L9 OR (ZINC# OR ZN) (2A) (DIALKYLDITHIOPHOSPHATE# OR DIMETHYLDITHIOPHOSPHATE# OR DIPROPYLDITHIOPHOSPHATE# OR DIPROPYLDITHIOPHOSPHATE# OR (DIMETHYL OR DIETHYL OR DIPROPYL OR DIBUTYL OR DIALKYL OR DI (A) (ME OR ET OR PR OR BU OR ALKYL)) (2A) DITHIOPHOSPHATE#)

## FILE 'REGISTRY'

E ZINC DIMETHYLDITHIOCARBAMATE/CN

L12 1 SEA "ZINC DIMETHYLDITHIOCARBAMATE"/CN E ZINC DIETHYLDITHIOCARBAMATE/CN

```
L13
             1 SEA "ZINC DIETHYLDITHIOCARBAMATE"/CN
               E ZINC DIPROPYLDITHIOCARBAMATE/CN
L14
              1 SEA "ZINC DIPROPYLDITHIOCARBAMATE"/CN
               E ZINC DIBUTYLDITHIOCARBAMATE/CN
L15
              1 SEA "ZINC DIBUTYLDITHIOCARBAMATE"/CN
L16
              4 SEA (L12 OR L13 OR L14 OR L15)
     FILE 'HCA'
           4255 SEA L16 OR (ZINC# OR ZN) (2A) (DIALKYLDITHIOCARBAMATE# OR
L18
                DIMETHYLDITHIOCARBAMATE# OR DIETHYLDITHIOCARBAMATE# OR
                DIPROPYLDITHIOCARBAMATE# OR DIBUTYLDITHIOCARBAMATE# OR
                (DIMETHYL OR DIETHYL OR DIPROPYL OR DIBUTYL OR DIALKYL
                OR DI (A) (ME OR ET OR PR OR BU OR ALKYL)) (2A) DITHIOCARBAMA
                TE#)
     FILE 'LREGISTRY'
L19
                STR
     FILE 'REGISTRY'
L20
              0 SEA SSS SAM L19
     FILE 'LREGISTRY'
L21
                STR L19
     FILE 'REGISTRY'
L22
            26 SEA SSS SAM L21
L23
            526 SEA SSS FUL L21
                SAV L23 THE350/A
L24
             0 SEA SUB=L23 SSS SAM L19
L25
             61 SEA SUB=L23 SSS FUL L19
                SAV L25 THE350A/A
     FILE 'HCA'
L26
            589 SEA L25
     FILE 'REGISTRY'
L27
              8 SEA L25 AND 1<NC
     FILE 'HCA'
            156 SEA L26 AND (L1 OR L2)
L28
L29
             27 SEA L28 AND L3
             1 SEA L29 AND (OVER(A) BASE? OR OVERBASE?)
L30
L31
             7 SEA L28 AND L11
             24 SEA L28 AND L18
L32
L33
             18 SEA L28 AND L4
L34
         14544 SEA L4 AND (L1 OR L2)
L35
           705 SEA L34 AND L3
L36
             1 SEA L29 AND (OVER(A) BASE? OR OVERBASE?)
```

```
L37
             80 SEA L34 AND L11
             93 SEA L34 AND L18
L38
             1 SEA L35 AND L37 AND L38
L39
L40
             37 SEA L35 AND L37
L41
            12 SEA L35 AND L38
             7 SEA L37 AND L38
L42
L43
             0 SEA L40 AND L26
L44
             0 SEA L40 AND L29
L45
             0 SEA L40 AND L32
L46
             1 SEA L40 AND L41
            48 SEA L3 AND (L11 OR L18) AND L4
L47
L48
            48 SEA L47 AND (L1 OR L2)
L49
             0 SEA L48 AND L26
           10 SEA L48 AND L26
10 SEA L3 AND (L11 OR L18) AND L26
L50
             7 SEA L50 AND (L1 OR L2)
3 SEA L50 NOT L51
L51
L52
            48 SEA (L1 OR L2) AND L3 AND (L11 OR L18) AND L4
L53
L54
             1 SEA (L1 OR L2) AND L3 AND (L11 AND L18) AND L4
L55
           156 SEA (L1 OR L2) AND L26
            28 SEA L55 AND (L11 OR L18)
L56
             7 SEA L56 AND L3
L57
L58
              3 SEA L56 AND L4
L59
              3 SEA L55 AND (L11 AND L18)
L60
          14544 SEA (L1 OR L2) AND L4
            705 SEA L60 AND L3
L61
L62
            166 SEA L60 AND (L11 OR L18)
             7 SEA L60 AND (L11 AND L18)
L63
L64
             48 SEA L61 AND L62
L65
              2 SEA L61 AND L26
L66
              3 SEA L62 AND L26
L67
           2240 SEA (L1 OR L2) AND (L11 OR L18)
L68
           166 SEA L67 AND L4
L69
             28 SEA L67 AND L26
L70
             51 SEA (L1 OR L2) AND (L11 AND L18)
L71
             7 SEA L70 AND L4
L72
             3 SEA L70 AND L26
L73
             18 SEA L30 OR L31 OR L36 OR L39 OR L42 OR L46 OR L51 OR L54
                OR L57 OR L58 OR L59 OR L63 OR L65 OR L66 OR L71 OR L72
L74
             24 SEA (L33 OR L41) NOT L73
L75
             35 SEA (L29 OR L32 OR L56 OR L69) NOT (L73 OR L74)
     FILE 'REGISTRY'
L76
            465 SEA L23 NOT L25
     FILE 'HCA'
L77
          10927 SEA L76
L78
             37 SEA L77 AND (L1 OR L2) AND L3
L79
            9 SEA L78 AND (L11 OR L18)
```

```
1 SEA L77 AND (L1 OR L2) AND L11 AND L18
L80
L81
            106 SEA L77 AND (L1 OR L2) AND (L11 OR L18)
L82
              9 SEA L81 AND L3
             17 SEA L81 AND L4
L83
L84
             20 SEA (L79 OR L80 OR L82 OR L83) NOT (L73 OR L74 OR L75)
             17 SEA L73 AND (1840-2002/PY OR 1840-2002/PRY)
L85
L86
             23 SEA L74 AND (1840-2002/PY OR 1840-2002/PRY)
             34 SEA L75 AND (1840-2002/PY OR 1840-2002/PRY)
L87
             20 SEA L84 AND (1840-2002/PY OR 1840-2002/PRY)
L88
     FILE 'LCA'
L89-
            736 SEA (LUBRIC? OR LUBE# OR GREAS? OR ANTIFRIC? OR ANTIWEAR?
                 OR ANTICORRO? OR ANTIRUST? OR ANTIOXID? OR ANTI(W) (FRIC?
                 OR WEAR? OR CORRO? OR RUST? OR OXID?) OR SLICK? OR
                SLIPP? OR OLEAGINOUS?)
L90
            555 SEA (LUBRIC? OR LUBE# OR GREAS? OR ANTIFRIC? OR ANTIWEAR?
                 OR ANTICORRO? OR ANTIRUST? OR ANTI(W) (FRIC? OR WEAR? OR
                CORRO? OR RUST?) OR SLICK? OR SLIPP? OR OLEAGINOUS?)
L91
             67 SEA ((GEAR? OR ENGINE# OR CRANKCASE? OR MOTOR# OR
                TRANSMISSION? OR HYDRAUL? OR MACHINE? OR (2 OR 4 OR TWO
                OR FOUR) (W) (CYCLE# OR STROKE#)) (2A) (FLUID# OR OIL#))
     FILE 'HCA'
L92
         224046 SEA L90 OR L91
L93)
             15 SEA L85 AND L92
             11 SEA L86 AND L92
L95
             23 SEA L87 AND L92
L96
              4 SEA L88 AND L92
L97
            108 SEA L26 AND L92
             14 SEA L97 AND L4
L98
L99
             13 SEA L97 AND L18
              6 SEA L97 AND L11
L100
L101
             26 SEA L97 AND L3
              1 SEA (L98 OR L99 OR L100 OR L101) NOT (L93 OR L94 OR L95)
L102
L103
             0 SEA L102 AND (1840-2002/PY OR 1840-2002/PRY)
L104
            145 SEA L77 AND L92
             20 SEA L104 AND L3
L105
             0 SEA L104 AND L11
L106
             25 SEA L104 AND L18
L107
L108
             4 SEA L104 AND L4
L109
              5 SEA L105 AND L107
L110
              7 SEA (L108 OR L109 OR L96) NOT (L93 OR L94 OR L95)
1111
              7 SEA L110 AND (1840-2002/PY OR 1840-2002/PRY)
```

FILE 'REGISTRY'

```
L19
              STR
   21 22
              23 24
   Ak S
              S
                 Ak
Ak \sim N = C \sim G1 \sim C = N \sim Ak
                               S @10
                                          S√√S
                                                        S-\^Ak-\^S
1 2
       3 4
              5 6 7
                                          @13 @14
                                                        @17 18 @19
VAR G1=10/13-3 14-5/17-3 19-5
NODE ATTRIBUTES:
CONNECT IS E1 RC AT
                      1
CONNECT IS E1 RC AT
                      7
CONNECT IS E2 RC AT
                    10
CONNECT IS E2 RC AT
                     13
CONNECT IS E2 RC AT
                     14
CONNECT IS E2 RC AT
                     17
CONNECT IS E2 RC AT
                     18
CONNECT IS E2 RC AT
                     19
CONNECT IS E1 RC AT
                     21
CONNECT IS E1 RC AT
DEFAULT MLEVEL IS ATOM
GGCAT
       IS SAT AT
                    1
GGCAT IS SAT AT
                   7
GGCAT IS SAT
               AT 18
GGCAT
       IS SAT
               AT
                   21
GGCAT
       IS SAT AT 24
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M3-X30 C AT
ECOUNT IS M3-X30 C AT
                         7
ECOUNT IS M3-X30 C
                    AT
                        21
ECOUNT IS M3-X30 C AT
                        24
GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 17
STEREO ATTRIBUTES: NONE
L21
               STR
   21 22
              23 24
   Ak S
              S Ak
Ak \sim N - C \sim G1 \sim C - N \sim Ak
                               S @10
                                         S∼∿S
                                                        S \sim Ak \sim S
1 2 3 4 5 6 7
                                         @13 @14
                                                     @17 18 @19
VAR G1=10/13-3 14-5/17-3 19-5
```

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 1

```
CONNECT IS E1 RC AT
                     7
CONNECT IS E2 RC AT
                    10
CONNECT IS E2 RC AT
                    13
CONNECT IS E2 RC AT
                    14
CONNECT IS E2 RC AT
                    17
CONNECT IS E2 RC AT
                    18
CONNECT IS E2 RC AT
                    19
CONNECT IS E1 RC AT
                    21
CONNECT IS E1 RC AT 24
DEFAULT MLEVEL IS ATOM
GGCAT IS SAT AT
GGCAT
       IS SAT AT
                   7
GGCAT
       IS SAT AT 18
GGCAT IS SAT AT 21
GGCAT
       IS SAT AT 24
DEFAULT ECLEVEL IS LIMITED
```

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE

L23 526 SEA FILE=REGISTRY SSS FUL L21

L25 61 SEA FILE=REGISTRY SUB=L23 SSS FUL L19

100.0% PROCESSED 526 ITERATIONS 61 ANSWERS

SEARCH TIME: 00.00.01

=> file hca
FILE 'HCA'
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

## => d 193 1-15 cbib abs hitstr hitind

L93 ANSWER 1 OF 15 HCA COPYRIGHT 2006 ACS on STN
142:8976 Overbased borated lubricating oil ashless
dispersants, detergents, and antioxidants
for low-phosphorus oils with extended drain intervals. Roby,
Stephen H.; Mayer, Richard J.; Ruelas, Susanne G. (Chevron Oronite
Company LLC, USA). U.S. Pat. Appl. Publ. US 2004242433 A1 20041202,
15 pp., Cont.-in-part of U.S. Ser. No. 285,753, abandoned.
(English). CODEN: USXXCO. APPLICATION: US 2004-833562 20040428.